

Revised
wherein the control circuit board and the outer case are removably fixed to one
another.

REMARKS

Claims 2-6 were examined on their merits and claim 7 has been added to the application.

Formal Matters

1. The Examiner is respectfully requested to inform the Applicant of the status of the drawings filed on October 18, 1999.
2. Applicant respectfully requests the Examiner to acknowledge the Information Disclosure Statement (IDS) filed on August 14, 2001 by returning a copy of the PTO-1449 form duly initialed.
3. The Examiner objects to claim 3 as containing a typographical error. Applicant respectfully submits that claims 3, as amended on July 3, 2001, no longer contains the typographical error of the original claim. Therefore, Applicant respectfully requests the Examiner to withdraw the objection of claim 3.
4. Applicant thanks the Examiner for allowing independent claim 4.

Art Rejections

1. Independent claims 2 and 3 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Giho (Vol. 72, No. 12, 1998) in view of Rudi (EP 0787992). Applicant traverses this rejection for at least the reasons stated below.

As admitted by the Examiner, Giho fails to disclose, teach or suggest the following limitation recited in independent claim 2:

fixing means for fixing the control circuit board to the outer case, said fixing means being a pawl projectingly provided on the outer case,

The Examiner therefore relies on Rudi to compensate for this deficiency. Rudi is directed to a housing for an electricity meter wherein printed circuit boards are arranged vertically with respect to each other and retained by a latching means.

Giho, however, is also deficient with respect the following limitation as recited in claims 2 and 3:

wherein the control circuit board and the outer case are removably fixed to each other.

Specifically, Giho does not disclose, teach or suggest fixing the control circuit board to the outer case in a removable fashion. In fact, the Giho disclosure describes a structure wherein “the control circuit is *built into* the device.” “Built into” is the exact opposite of removable. This argument is supported by the figure in Giho, which depicts a control circuit board permanently attached to the outer case or structure. As depicted in the Giho figure, the ends of the control circuit board are permanently set within the case, thus the control circuit board could not be removed without causing damage to the structure. Furthermore, the control circuit board disclosed in Giho is secured by solder to a raiser member extending from the housing (see page 63, right column, lines 24-25) thus making the detachment of the circuit board impossible or difficult at best.

Because the circuit control board in Giho is “built into” the structure, one of ordinary skill in the art would not look to the combination of Giho and Rudi as motivation to produce the present invention, wherein a pawl fixing means is provided on the outer case in order to removably fix the control circuit board to the outer case. In this light, the combination of Giho

and Rudi cannot reasonably be said to render obvious the claimed subject matter. The Examiner is therefore respectfully requested to withdraw the § 103(a) rejection from independent claims 2 and 3.

2. Claim 5 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Giho in view of Ahmann U.S. Patent No. 4,037,270 ("Ahmann"). Applicant respectfully traverses this rejection for at least the reasons stated below.

As demonstrated above, Giho is deficient with respect the following limitation also recited in independent claim 5:

wherein the control circuit board and the outer case are
removably fixed to each other.

The Examiner therefore relies on Ahmann to fulfill at least this deficiency. Ahmann is directed to a circuit packaging technique relating to packaging circuit modules to achieve high density of electronics as well as for cooling purposes. Ahmann does not disclose providing a fixing means on an outer case in order to removably fix a control circuit board to the outer case.

Without at least such a suggestion, one would not have been (and could not have been) motivated to combine the structure disclosed in Giho with the packaging and cooling system taught in Ahmann to produce an onboard semiconductor device wherein the control circuit board is removably fixed to the outer case. Because there can be found in Ahmann no teaching or suggestion that meets the above-identified requirements, the combination of Giho and Ahmann cannot reasonably be said to render obvious the claimed subject matter. The Examiner is therefore respectfully requested to withdraw the § 103(a) rejection from independent claim 5.

3. Claim 6 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Giho in view of Inaska U.S. Patent No. 5,136,471 ("Inaska").

As demonstrated above, Giho is deficient with respect the following limitation also recited in independent claim 6:

wherein the control circuit board and the outer case are
removably fixed to each other.

The Examiner therefore relies on Inaska to fulfill at least this deficiency. Inaska is directed to a feed structure of a laminate wiring board which facilitates dense arrangements of LSI chips. Specifically, the laminate wiring board has wiring layers connected to numerous input and output pins which are exposed to the outside of the wiring board. Inaska does not disclose providing a fixing means on an outer case in order to removably fix a control circuit board to the outer case.

Without at least such a suggestion, one would not have been (and could not have been) motivated to combine the structure disclosed in Giho with the laminate wiring board taught in Inaska to produce an onboard semiconductor device wherein the control circuit board is removably fixed to the outer case. Because there can be found in Inaska no teaching or suggestion that meets the above-identified requirements, the combination of Giho and Inaska cannot reasonably be said to render obvious the claimed subject matter. The Examiner is therefore respectfully requested to withdraw the § 103(a) rejection from independent claim 6.

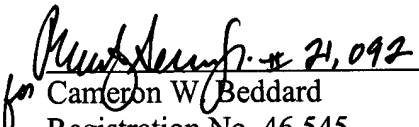
Reconsideration and allowance of all claims are respectfully requested in view of the following remarks. In view of the foregoing, the claims are now believed to be in form for allowance, and such action is hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, he is kindly requested to contact the undersigned at the telephone number listed below.

Amendment Under 37 C.F.R. § 1.111
U.S. Appln. No. 09/419,787

Applicant hereby petitions for any extension of time which may be required to maintain the pendency of this case, and any required fee, except for the Issue Fee, for such extension is to be charged to Deposit Account No. 19-4880.

Respectfully submitted,

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